

Recording Sheets for Ink Jet Printing

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Field of the Invention

- This invention relates to recording sheets suitable for use in an ink jet printing process and to coating compositions for the preparation of ink receiving layers for this process. It relates especially to recording sheets where the image recorded thereon can be observed by both reflected or transmitted light, where the ink receiving system consists of a support onto which is coated at least one ink receiving layer, said recording sheet being characterised in that at least one coated layer contains a porous inorganic oxide and an aliphatic hydroxycarboxylic acid with more than 2 C atoms.

Background of the Invention

- Recording sheets for the ink jet printing process available today do not have all the required properties. Particularly there is an urgent need to improve ink absorptiveness, ink absorption rate, image quality, water fastness and light stability. A preferred embodiment of the invention relates to improved recording sheets having excellent image quality, high ink absorptiveness and high ink absorption rate. In particular ink receiving materials are needed where the images recorded thereon are resistant to rubbing on the surface and remain intact when in contact with water and should not fade when exposed to light.

Ink jet printing processes are of two types: continuous stream and drop-on-demand.

- In continuous stream ink jet printing systems, ink is emitted in a continuous stream under pressure through a nozzle. The stream is perturbed, causing it to break up into individual droplets at a fixed distance from the nozzle. At the break-up point, the droplets are charged in accordance with digital data signals and passed through an electric field which adjusts the trajectory of each droplet in order to direct it to a gutter for recirculation or a specific location on a recording medium.

In the non-continuous process, or the so called "drop-on-demand" systems, a droplet is expelled from a nozzle to a position on a recording medium in accordance with digital data signals. A droplet is not formed or expelled unless it is to be placed on the recording medium.

- The invention is directed towards recording sheets and coating compositions that may be used in both recording processes.

It is known that recording sheets for ink jet printing must meet a number of stringent demands. The printed image has to have the following properties: